

## How research can improve your teaching

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### **Abstract:**

Teachers are frequently told to use research-verified practices to deliver instruction. What does that mean? What are the research-verified practices we should be using in our music classrooms? If we look at the body of research related to music teaching, we can find overarching trends associated with effective music teaching. Summarized below are some of the most applicable studies to music classrooms. Using research-verified approaches along with an inquiry-based mindset provides a powerful equation for effective teaching.

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### **Article:**

**\*\*\*Note: Full text of article below**



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Teachers are frequently told to use research-verified practices to deliver instruction. What does that mean? What are the research-verified practices we should be using in our music classrooms? If we look at the body of research related to music teaching, we can find overarching trends associated with effective music teaching. Summarized below are some of the most applicable studies to music classrooms. Using research-verified approaches along with an inquiry-based mindset provides a powerful equation for effective teaching.

## Understanding Research

Researchers prefer to look for trends across a body of research because a singular study cannot determine truth. As a general rule, researchers are taught to avoid the word “prove” because it is extremely difficult to prove anything. For the most part, research looks for differences or relationships between variables, not causation. For example, we may find that there is a relationship between music participation and higher standardized test scores<sup>1</sup>, but we don’t know whether music participation causes higher test scores, or whether students who perform better on standardized tests happen to also participate in music. Perhaps the most exaggerated of all research findings investigating music and intelligence were those associated with the Mozart effect. The original study by Rauscher, Shaw, and Ky (1993) compared the abstract/spatial reasoning standardized tests scores of 36 participants who were placed in one of three conditions: listening to 10 minutes of Mozart’s Sonata in D major for two pianos, listening to a relaxation tape, or silence<sup>2</sup>. Participants who listened to Mozart prior to taking the standardized test performed approximately 8 – 9 points higher than the participants in the other two conditions. Many researchers attempted to replicate these findings, and the majority were unsuccessful<sup>3</sup>. Yet, the media ran wild and many presumed that indeed, listening to Mozart can make you smarter.

Why question the validity of a single study? Individual studies provide important information, much like a single assessment of a student in a classroom, but one result may not predict future

results. We need more information. In order to say that we, as music educators, are using research-verified practices, we need to select practices that have been replicated and vetted over time. What do we know about effective music teaching from the research literature?

## Research-verified Practices in Music Education Delivery Matters

Across numerous studies, delivery skills impact perceptions of lesson effectiveness as well as student achievement<sup>5</sup>. Researchers have found that not only is teacher delivery related to ratings of overall effectiveness, delivery seems to take priority over accuracy and quality of instruction<sup>6</sup>. Eye contact, facial expression, vocal rate and inflection, and teacher intensity are elements of teacher delivery that impact instruction. Simply increasing one’s eye contact with students can increase student engagement<sup>7</sup>. Challenge yourself to make eye contact and use student names. See if you can use the name of every student in your class and make direct eye contact with them as you address them by name. Make a list at the end of each lesson of which students you addressed or called on to participate. This will increase eye contact and improve rapport with students. Also, teachers who vary their facial expressions, vocal rate, and inflection are able to keep students more engaged. Video yourself to see whether you are using a variety of facial expressions.

## Effective Pacing

Student engagement is directly related to active participation<sup>8</sup>. Experienced teachers limit verbal instructions to approximately 30 – 40% of instructional time<sup>9</sup>, thereby allowing students to



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actively engage in music making for the majority of the lesson. Not only do experienced teachers use less verbal instruction compared to novice teachers<sup>10</sup>, students stay more engaged, and prefer rehearsals with less teacher talk and more opportunities to perform<sup>11</sup>. Teachers should consider video recording their lessons to measure the amount of time the teacher is talking compared to active student engagement. If students are off-task, one of the first things the teacher should review is the ratio of teacher talk to student performance.

Faster-paced teaching is generally rated higher than slower-paced teaching<sup>12</sup>. “The perceived pace of instruction in music is proportional to the rate of student performance opportunities, rather than the overall percentage of class time devoted to student performance” (p. 278). Beyond simply reducing teacher talk, instructions and feedback should be brief and interspersed between opportunities for music making to increase student engagement.

Feedback

Feedback to students must be specific in order to be effective<sup>13</sup>. A ratio of four approvals to one disapproval is frequently recommended as an ideal target for younger-aged classrooms. This recommendation evolved from the Matching Law<sup>14</sup>, which essentially states that the rate of a given behavior will match the rate of reinforcement for that behavior. A practical application would be to provide students reinforcement for standing silently in line while awaiting entry for class. The number of times the teacher reinforces this behavior will predict how frequently students display the behavior in the future. While this may sound simple, in actuality, it is quite difficult because the teacher can only provide the reinforcement if the students are standing in-line silently. If approvals are given, but the students are not doing what is asked, then the teacher is inadvertently teaching the students to do the opposite of what is intended. Feedback must be specific and contingent on what the student is doing.

Students learn faster and perform better when they are successful approximately 80% of the time. If the teacher is sequencing so the majority of students are successful, it is much easier to provide positive feedback at a ratio of four to one, and much more meaningful. As students age, the need for teacher approval decreases, and in music, we find secondary school teachers give more negative than positive feedback<sup>15</sup>. It is possible that older students require less teacher approval because the music itself is reinforcing. Most students recognize and feel pleased when they are successful making music with others, so are not as dependent on the

external approval from the teacher.

Teachers should video their lessons to assess the amount of approval and disapproval being delivered. If you find you are giving more disapproval than approval, consider whether the students are successful enough for you to be more approving. You may need to sequence things using smaller chunks, or choose less difficult repertoire or musical tasks. If the activity is too difficult, then the teacher will find she has to give more disapproval, stop more frequently, and provide additional verbal instruction. Reducing the difficulty of the task may be a simple solution that will allow students to be more successful, increase pacing, reduce teacher talk, and provide more opportunities for teachers to deliver more positive feedback.

Effective music teachers demonstrate excellent delivery skills, faster-paced lessons, use concise verbal instructions, allow students to engage in music activities for the majority of the lesson, provide specific and positive feedback, and sequence instruction so students are successful nearly 80% of the time. To improve your own teaching, consider pinpointing one effective teaching characteristic, gather data (video), analyze your teaching, then decide whether you would like to make a change such as increasing eye contact, speaking in a softer voice, reducing teacher talk, or giving more approval. If you are interested in reading more music education research, membership in the National Association for Music Education provides you with online access to the *Music Educators Journal*, *Update: Applications of Research in Music Education*, *Journal of Music Teacher Education*, and *Journal of Research in Music Education* (for an additional fee).

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